



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0093; Project Identifier AD-2021-00987-T; Amendment 39-22164; AD 2022-18-13]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes. This AD was prompted by an evaluation by the design approval holder (DAH) indicating that certain web lap splices in the center dome apex of the aft pressure bulkhead are subject to widespread fatigue damage (WFD). This AD requires a general visual inspection for existing repairs at the aft pressure bulkhead; repetitive detailed, high frequency eddy current (HFEC), and low frequency eddy current (LFEC) inspections; and repair if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0093; or in person at Docket Operations between 9 a.m. and 5 p.m.,

Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet myboeingfleet.com.

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at regulations.gov under Docket No. FAA-2022-0093.

FOR FURTHER INFORMATION CONTACT: Bill Ashforth, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3520; email: bill.ashforth@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes. The NPRM published in the *Federal Register* on February 25, 2022 (87 FR 10755). The NPRM was prompted by an evaluation by the DAH indicating that certain web lap splices in the center dome apex of the aft pressure bulkhead are subject to WFD. In the NPRM, the FAA proposed to require a general visual inspection for existing repairs at the aft pressure bulkhead; repetitive detailed, HFEC, and LFEC inspections; and repair if necessary. The FAA is issuing this

AD to address fatigue cracks in the webs of the aft pressure bulkhead, which could result in reduced structural integrity of the airplane.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from United Airlines and two individuals, who supported the NPRM without change.

The FAA received additional comments from Southwest Airlines (SWA), Boeing, and Aviation Partners Boeing. The following presents the comments received on the NPRM and the FAA's response to each comment.

Effects of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that accomplishing Supplemental Type Certificate (STC) ST00830SE does not affect the actions specified in the proposed AD.

The FAA concurs with the commenter. The FAA has redesignated paragraph (c) of the proposed AD as paragraph (c)(1) of this AD and added paragraph (c)(2) to this AD to state that installation of STC ST00830SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST00830SE is installed, a "change in product" alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

Request to Revise Cause of Unsafe Condition

Boeing requested that the FAA revise the SUMMARY of the NPRM and paragraph (e) of the proposed AD. Boeing noted that the SUMMARY of the NPRM and paragraph (e) of the proposed AD refer to WFD, but Boeing contends that the unsafe condition was caused by pull up on the first two fasteners at the web lap splices in the center dome apex. Boeing explained that these fasteners, which are located adjacent to the area where the aft web transitions over the forward web in the lap splice, are subject to clamp-up stresses (which are pre-stresses during the assembly). These stresses,

combined with pressurization, will reduce the fatigue life of the web at the center dome apex and potentially cause early cracking in this location.

The FAA partially agrees. The FAA agrees with Boeing that the unsafe condition was discovered through clamp-up stresses, as well as other non-WFD events. The WFD evaluation revealed that the area is susceptible to WFD; as a result, this unsafe condition is related to WFD. Therefore, the FAA maintains that the SUMMARY of this final rule and paragraph (e) of this AD are correct in stating that the affected areas are subject to WFD. The FAA has not changed this AD in this regard.

Request for Clarification for Repairs Found in the Aft Pressure Bulkhead

SWA requested clarification regarding paragraph (h)(2) of the proposed AD. SWA noted that in Table 1 of paragraph 3., Compliance, of Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021, CONDITION 1 (ACTION 1) specifies to contact Boeing for any repair found during the general visual inspection of the aft pressure bulkhead. CONDITION 1 (ACTION 1) also references flag note (a), which states:

CONDITION 1 (ACTION 1) is not required for any repair found during the General Visual Inspection of the APB [aft pressure bulkhead] aft side in areas where a repair covers the affected inspection zones provided that the installed repair was approved by The Boeing Company Organization Designation Authorization (ODA) via a FAA Form 8100-9 and inspections are accomplished in accordance with the scheduled repair approval listed on the FAA Form 8100-9.

SWA stated that its interpretation is that paragraph (h)(2) of the proposed AD applies to all repairs found where the operator must contact Boeing due to the repair not meeting the criteria listed in flag note (a). SWA went on to observe that if the repairs found during CONDITION 1 (ACTION 1) meet the requirements of flag note (a), then the operator is not required to contact Boeing.

The FAA provides the following clarification. SWA is correct in its interpretation that paragraph (h)(2) of this AD applies to all instances where the operator must contact

Boeing for repair instructions or for alternative inspections. If the repairs found during the general visual inspection of the aft pressure bulkhead aft side meet the requirements of flag note (a) of Table 1 of paragraph 3., Compliance, of Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021, then contacting Boeing is not required. The FAA has not changed this AD in this regard.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021. This service information specifies procedures for a general visual inspection for existing repairs at the aft pressure bulkhead; repetitive detailed, HFEC, and LFEC inspections for any crack; and repair of cracks if necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Costs of Compliance

The FAA estimates that this AD affects 1,187 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection for repairs	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$100,895

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Repetitive detailed, HFEC, and LFEC inspections	Up to 9 work-hours X \$85 per hour = Up to \$765 per inspection cycle	\$0	Up to \$765 per inspection cycle	Up to \$908,055 per inspection cycle

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs specified in this AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-18-13 The Boeing Company: Amendment 39-22164; Docket

No. FAA-2022-0093; Project Identifier AD-2021-00987-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

(1) This AD applies to The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021.

(2) Installation of Supplemental Type Certificate (STC) ST00830SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST00830SE is installed, a “change in product” alternative method of

compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by an evaluation by the design approval holder (DAH) indicating that certain web lap splices in the center dome apex of the aft pressure bulkhead are subject to widespread fatigue damage (WFD). The FAA is issuing this AD to address fatigue cracks in the webs of the aft pressure bulkhead, which could result in reduced structural integrity of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 737-53A1403, dated August 26, 2021, which is referred to in Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021.

(h) Exceptions to Service Information Specifications

(1) Where the Compliance Time column of the table in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26,

2021, uses the phrase “the original issue date of the Requirements Bulletin 737-53A1403 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021, specifies contacting Boeing for repair instructions or for alternative inspections: This AD requires doing the repair, or doing the alternative inspections and applicable on-condition actions, using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

For more information about this AD, contact Bill Ashforth, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3520; email: bill.ashforth@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Requirements Bulletin 737-53A1403 RB, dated August 26, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet myboeingfleet.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, fr.inspection@nara.gov, or go to: archives.gov/federal-register/cfr/ibr-locations.html.

Issued on August 24, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-20736 Filed: 9/23/2022 8:45 am; Publication Date: 9/26/2022]